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AUTHOR Hildebrandt, Herbert W.
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ABSTRACT

A study was conducted to determine whether there was a linguistic correlation between a financially good year and a bad year as expressed in the annual reports of company presidents to their shareholders. Specifically the study tested the "Pollyanna Principle," which states (1) that regardless of whether the year was financially good or bad, the communication to the shareholders would be positive in tone; (2) that positive words would be more frequent in a financially good year than in a bad one; and (3) that negative words would be less frequent in a financially good year than in a bad one. A list of 356 words was compiled for determining positive and negative words in context. The list was drawn from two sources: R. B. Zajonc's list of 148 antonym pairs and 30 antonym pairs selected primarily from the business world and cited by a group of business professors as compatible with the Zajonc list. A content analysis was then conducted of 12 annual reports from a bad business year and 12 from a good year. All three tenets of the "Pollyanna Principle" were sustained. In addition, a cross-cultural study that analyzed the use of the same 356 words in translation in German annual reports revealed that Germans tended to accept the same positive words as Americans. (FL)

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THE POLLYANNA PRINCIPLE IN BUSINESS WRITING: INITIAL RESULTS, SUGGESTIONS FOR RESEARCH

Herbert W. Hildebrandt
Graduate School of Business
The University of Michigan

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ABSTRACT

This paper looks at three hypotheses: that regardless of the financially good or bad years of a corporation, the communication in the annual letters to stockholders will be predominantly positive; that positive words will be more frequent in a financially good year than a bad year; and that negative words are less frequent in a financially good year than a bad year. All hypotheses were sustained after viewing 12 annual letters to stockholders in 1975 and 12 letters in 1977.

Cross culturally, German readers also tend to accept the same preferred, positive words as Americans.

The Pollyanna Hypothesis provides a fertile area for further research: into business letters, business speeches, or other areas which fall into the genre of written or oral business communication.

INTRODUCTION

We do not often read books written in 1913, particularly about an eleven year old girl in a red gingham dress. Yet, during that year a book was published which later became the genesis for a psychological theory that serves as the topic for this paper: the Pollyanna Hypothesis. A brief monologue from that book will provide some background as to the meaning of the concept:

> "There! Isn't this lovely? Is it far? I hope 'tis--I love to ride...Of course, if 'tisn't far, I shan't mind, though, 'cause I'll be glad to get there all the sooner, you know. What a pretty street! I knew 'twas going to be pretty..."[1]

[1]Eleanor Porter, Pollyanna, Colonial Press, Boston, 1913. p.20

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Or, in another place the following dialogue:

"Well, that's the game, you know, anyway,"
"The--game?"
"Yes; the 'just being glad' game."[2]

Pollyanna then has come to represent an entire genre of persons who are eternal optimists; who refuse to see the negative side of life; who see delight, sunshine, positiveness, and sweetness beyond measure.

Hence the purpose of our paper: can we see reflections of the Pollyanna Concept in business writing? Are there opportunities for further investigation?

We will limit our analysis to one aspect of written communication: the yearly letter of the President or Chairman of the Board to shareholders. Four hypotheses relating to business communication will be discussed:

1. Positive words occur more frequently in annual letters to stockholders regardless of a financially good or bad year.

2. Positive words occur more frequently in a financially good year than a bad year.

3. Negative words occur less frequently in a good year than a bad year.

4. German respondents will parallel American respondents when viewing positive and negative words in isolation.

Stated another way, we are interested in this question: Is there any kind of linguistic correlation between a year of profit and a year of loss as expressed in the annual letter to stockholders?

PREVIOUS RESEARCH

It is not our intent in this brief paper to review all the research on the Pollyanna Hypothesis. A few sample assertions will give the reader some major research generalizations: positive affirmative words are used more often than negative words (Postman, 1958),[3]

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[2] Ibid., p. 42

[3] L. Postman, "The Experimental Analyses of Motivational factors in Perception," In: J.S. Brown, ed., Current Theory and Research in Motivation, University of Nebraska Press, 1953. pp. 59-108.

similarly supported by Jenkins, Russell, and Suici (1958).[4] The value of a word affects word frequency (Johnson, Thomas and Frincke, 1960);[5] words rated as good were higher in meaningfulness than words rated negatively (Noble, 1952);[6] recall of pleasant events over the unpleasant was in the majority (Johnson and Lim, 1961);[7] the goodness-frequency relation is present in all word classes (Johnson, 1966);[8] and positive words are learned faster than negative nonsense syllable words. (Ainsfeld and Lambert, 1966).[9]

In 1968 the most comprehensive review of all the literature on the subject was offered in a brilliant monograph by Zajonc (1968)[10] who proposed a counter hypothesis that frequency of usage affects word value correlation, later restated by him in Psychology Today (1970)[11] and still later in a statement with Harrison (1970).[12]

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[4]J.J. Jenkins, W.A. Russell, and G.J. Suci, "An Atlas of Semantic Profiles of 360 Words," American Journal of Psychology, 71 (1958), pp. 688-699.

[5]Ronald C. Johnson, Calvin W. Thomson, and Gerald Frincke, "Word Values, Word Frequency, and Visual Duration Tresholds" Psychological Review, 67 (1960), pp. 332-342.

[6]C.E. Noble, "An Analysis of Meaning," Psychological Review 59 (1952), pp. 421-430.

[7]R.C. Johnson, and D. Lim, "Personality Variables in Associative Production," Journal of General Psychology, 15 (1961), pp. 199-204.

[8]Ronald C. Johnson, "Word Affect and Word Frequency in Written English," The Journal of General Psychology, 75 (1966), pp. 35-38.

[9]M. Anisfeld, and W.E. Lambert, "When are Pleasant Words Learned Faster than Unpleasant Words?" Journal of Verbal Learning and Verbal Behavior, 5 (1966), pp. 132-141.

[10]R.B. Zajonc. "Attitudinal Effects of Mere Exposure" Journal of Personality and Social Psychology, 9 (1968) 1-27, Monograph Supplement No. 2, Part 2.

[11]Ibid., "Brainwash: Familiarity Breeds Comfort," Psychology Today, 3 (February 1970), pp. 33-35, 60-64.

[12]A.A. Harrison, and R.B. Zajonc, "The Effects of Frequency and Duration of Exposure on Response Competition and Affective Ratings," Journal of Psychology, 75 (1970) 163-170.

A most recent book entitled The Pollyanna Principle. Selectivity In Language, Meaning, and Thought summarized all the studies referred to above plus included some mini research projects on the topic. The Table of Contents suggests the spread of attention the Pollyanna principle has received: The Pollyanna Principle and stimulus selections; and perception; and language; and word associations; and spew order; and thought; and happiness; and evaluations of self; and evaluation of others.[13]

Thus Eleanor Porter's 1913 Pollyanna had no idea that her work would spawn an entire research genre, or, would in 1969 become part of a scholarly definition, or, have a principle named after her: "The Pollyanna Hypothesis asserts that there is a universal human tendency to use evaluatively positive words (E+) more frequently and directly than evaluatively negative words (E-) in communicating."[14]

No where in the above cited literature is attention given to business communication. Therefore, it is our intent to adapt some of the psychological principles and apply them to business communication, to which we shall now turn.

METHODOLOGY

Our approach is to apply a quantitative content analysis which analyzes positive-negative words in context, as opposed to viewing words in isolation as previous studies have done. Two aspects of the first and major hypothesis deserve comment. First, we will specifically examine one facet of business communication within two variables: a financially good and a financially bad year. Second, we will analyze positive and negative words in context, except for the initial part beginning with antonym pairs.

Three steps make up our methodology: (1) sample selection; (2) determination of positive and negative words; and (3) data summary and analysis.

Sample Selection

The sample for the first three hypotheses consisted in viewing letters to stockholders in twelve corporations in two financially different years: a good year, 1977, and a bad year, 1975.

Corporate annual reports were chosen as the sample; they are accessible; addressed to a corporation's most important audience, its stockholders; and are issued on an annual basis. Furthermore, they were 1-4 page statements of persuasion where the writer attempted to influence readers.

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[13]Margaret Matlin, and David Stang, The Pollyanna Principle Schenkman, Cambridge, 1978.

[14]Jerry Boucher, and Charles E. Osgood, "The Pollyanna Hypothesis," Journal of Verbal Learning and Verbal Behavior 8 (1969), p. 1.

Second, common good and bad years were sought to hold time as a constant. Due to the need for common periods, overall economic conditions were used to determine the two years. We chose 1975 as the financially bad year since a severe recession occurred then; and 1977 as the good year since therein many companies reported record earnings.

Finally, the Dow Jones' 30 Industrials were used as the pool of candidate corporations. Also, the effect of bias present in certain industries would be reduced since these companies are involved in a wide range of business activities. Twelve corporations fit our criteria and became the sample for this study.[15] The actual changes in net income for each company are presented in Exhibit 1.

Determination of Positive and Negative Words

Three parts made up our classification process. First, a list of base antonym pairs totalling 356 words was selected for determining positive and negative words in context, that is, we first had to determine which of two opposite words were positive and which were negative in tone. This list came from two sources: Zajonc,[16] created 148 of our antonym pairs while we added 30 more, primarily from the business world. Our additional 30 antonym pairs had to receive 100% agreement between twenty-four business professors before being added to the original 148 antonym pair list of Zajonc.

Following the additions, the entire list was given, occasionally rearranged, to over 100 students in the Graduate School of Business at The University of Michigan. Students circled the preferred word in each pair and thus determined the preferred word in isolation. Our results were not dissimilar from that of Zajonc's original list of antonyms; but we included this step in order to position the added business terms into the preferred-nonpreferred category. Exhibit 2 suggests the percentage of persons choosing the preferred word, the nonpreferred word, and the frequency data as compiled in the Thorndike-Lorge L-count.[17] As preparation for further research, we also translated the 356 words into German to determine whether a different culture would select the identical preferred word in their native language as did Americans.

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[15]Corporations used in the study were the following: Allied Chemical; Aluminum Company of America; American Can; American Telephone and Telegraph; DuPont; General Electric, General Foods, International Harvester; Johns-Manville; Minnesota Mining and Manufacturing; Standard Oil of California; Texaco,

[16]Zajonc, op. cit., 1968, pp. 4-5.

[17]Edward L. Thorndike, Irving Lorge, The Teacher's Word Book of 30,000 Words, Columbia University, New York, 1944.

Second, we read the twenty-four annual letters to stockholders recording occurrances of each of our base 356 words.

Third, each occurance of a word was placed into one of three classifications according to contextual usage, for example, the following underlined words are classified as positive.

Positive Statements

1. The demand for our products is very high.
2. The combined effect of increased shipments and higher prices was improved earnings.
3. We expect costs to rise further, but at rates below those of the past two years.

The reader will see that in #3 above below is a positive word in context since costs will be rising at a lower rate. In an isolated pair, below is a negative word when paired with above.

Words which reflect unfavorably on corporate goals are classified as negative, for example, the following underlined words.

Negative Statements

1. Net income decreased 46.2% compared with $1,544,745, or $5.68 a share in 1974.
2. Total worldwide demand remained a little below 1974, and well below the peak of 1973.
3. The OPEC nations, because of their consolidated position, were able to increase crude oil prices about $1 per barrel in October.

In #3 above able and increase are negative in context since higher oil prices imply higher costs, a negative in business. When choosing the more preferred positive term in isolation as able-unable and increase-decrease, the terms able and increase are positive words.

Words which reflect neither favorably or unfavorably were classified as neutral, for example, the following underlined words.

Neutral Statements

1. In this Annual Report, we have set down another such statement of policy.
2. This is evident in the chart below that shows the comparative price movements of (our products) and competing materials since 1970.

3. Research projects now under way at (our laboratories) are focused both on improving the energy efficiency of existing facilities and on new processes and equpiment.

Our neutral classification implies that certain antonymic words sometime have no affect on tone. Down, below, and under, all negative alternatives, appear to have neither a favorable or unfavorable impact on corporate goals.

The majority of the classification was done by one coder, with troublesome words placed before an additional coder who verified the original classification. Those occurrences not agreed to were eliminated.

During the coding process, twenty-one pairs of the original list were eliminated from the study. Word pairs were eliminated if they were found to be predominately neutral, such as first-last. First and last were used, for example, as follows: in the first (last) half of 1975, sales were $__ million. These situations dealt strictly with time and not corporate goals.

Data Summary and Analysis

This third part of methodology is data summary and analysis.[18] Five different exhibits were created, with some subjected to statistical tests.

Exhibit 3 shows the breakdown of the percentage of positive, neutral, and negative words in each of the twenty-four letters. It is this exhibit which allowed the first hypothesis to be tested, namely, that positive words occur more frequently than negative in annual letters to stockholders regardless of whether the involved corporation had had a financially good or bad year. The t-statistics were 7.05 for 1975, and 17.0 for 1977, exceeding the t-value of 1.796 needed for acceptability at the 95% level of confidence.

Exhibit 4 shows the percentage point change in positive and negative words from 1975 to 1977 for each of the twelve corporations. Thus the second hypothesis that positive words occur more frequently in a financially good year than a bad year is also upheld by employing a t-test for paired observations, a t-statistic of 2.42 resulted which exceeds the value of 1.796 needed for acceptability at the 95% confidence level. Finally, the third hypothesis that negative words occur less frequently in a good year than a bad one is also upheld by a t-statistic of 2.32 which also exceeded the minimum level of acceptability at the 95% confidence level.

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[18]The author expresses his appreciation to Craig Roush for assistance with the statistical data, Tom Cragg for computer assistance, and Rich Snyder for a working paper on which much of our information is based.

One other comparison was completed which answered the question, would the identical English antonym when translated into German produce a similar preferred (positive) and nonpreferred (negative) list? This addition to the study was included because the writer will in the future review German annual reports, specifically the annual letter to stockholders, to determine whether the Pollyanna Hypothesis crosses cultures in business communication. The data is recorded in Exhibit 5.

Fourteen of the 178 antonym pairs have 100% agreement across cultures as to the preferred word. Indeed, over half of the preferred words selected from the 178 antonym pairs have 90% agreement in both languages; this is beyond mere chance. An additional interesting query--to be developed further--involves why certain antonym words in German receive 100% agreement but not in English, and vise versa. Regardless, the tentative data suggests that the Pollyanna Hypothesis transcends lingustic barriers.

CONCLUSIONS

1. The main hypothesis of the study is valid, i.e., positive words occur more frequently than negative words in annual letters to stockholders regardless of the corporation's financial position. Hence, a financially bad year will include prose statements positive in nature which belie statistics reporting the negative year. One could infer that the annual letter is thus used as a piece which attempts to underplay the negative news, replacing it with positive conclusions.

2. Positive words are more frequent in a financially good year than a bad year. This conclusion seems logical in view of the Pollyanna Hypothesis and would further support the hypothesis that in any year the positive words would outnumber the negative.

3. Negative words are less frequent in a financially good year than a bad year, again similar to the conclusions reached above.

4. Over half of the preferred words selected from 178 German antonym pairs had a frequency relationship similiar to that of English. In fact, 100 words of a pair were preferred at an agreement level of 90% and above. This suggests that the Pollyanna Hypothesis is not limited to English, but has similar reflections in German.

RECOMMENDATIONS FOR FURTHER RESEARCH

What does the above information portend for the annual report as a piece of business communication? The conclusions of this and earlier studies are starting points for further research into the field of positive and negative words and their affect on interpersonal communication. The hiding of negative information through excessive positive words suggests a contradiction between the financial figures and the prose treatment by management. Therefore, a number of important areas still need to be investigated.

First, studies similar to this one based on contextual word definition need to be undertaken on a much larger scale. This study was relatively small, twenty-four letters, and may serve as a pilot for further research.

Second, in the area of business communication, research into stockholders' reactions to letters of varying positive to negative ratios could be undertaken to provide quantative support for the ratio affect on tone assumption.

Third, studies similar to this one based on contextual word definition could be undertaken in fields other than business communication. For example, interesting research opportunities exist in the areas of legal briefs and political speeches and writings.

Finally, similar studies could be undertaken in different cultures. The universality of the main hypothesis could be tested in numerous cultures.

EXHIBIT 1

PERCENTAGE CHANGE IN NET INCOME

COMPANY	1975	1977
A	(19.4%)	15.4%
B	(62.9)	35.7
C	(18.6)	13.0
D	(0.8)	18.7
E	(32.7)	18.7
F	(4.4)	16.9
G	(16.8)	17.9
H	(36.0)	17.7
I	(46.6)	92.1
J	(13.3)	21.8
K	(20.4)	15.5
L	(46.2)	7.0

$$\% \text{ Change} = \frac{\text{Current Year's Net Income}}{\text{Previous Year's Net Income}}$$

EXHIBIT 2

Preference And Frequency For Business Terms

% Agreement	Preferred (a)	Non-preferred (b)	Frequency (a)	Frequency (b)
100	useful	useless	215	129
100	assets	liabilities	55	47
100	solvent	insolvent	10	—
100	redeemable	nonredeemable	—	—
100	developed	underdeveloped	576	—
100	gain	loss	352	352
100	insurable	uninsurable	—	—
100	business assets	business liabilities	—	—
100	best	worst	1850	450
100	balanced	unbalanced	287	9
98	negotiable	nonnegotiable	—	—
98	upturn	downturn	—	—
98	payment	nonpayment	179	—
98	expansion	contraction	44	13
96	uptrend	downtrend	—	—
95	deposit	withdrawal	119	7
93	profit	nonprofit	366	—
91	parent	subsidary	797	6
90	management	labor	189	628
89	noninflationary	inflationary	—	—
81	even	odd	4198	250
79	bull	bear	165	605
77	lender	borrower	7	4
71	save	spend	872	680
70	deflation	inflation	14	19
67	debit balance	credit balance	—	—
61	export	import	88	86
61	mortgagor	mortgagee	—	—
59	oversubscribed	undersubscribed	—	—
57	debit	credit	2	294

EXHIBIT 3

CLASSIFICATION OF WORDS IN CONTEXT

	1975			1977		
	POSITIVE	NEUTRAL	NEGATIVE	POSITIVE	NEUTRAL	NEGATIVE
COMPANY						
A	68.9%	3.4%	27.5%	79.5%	%	20.5%
B	61.7	%	38.3	88.2	2.9	8.9
C	68.1	2.1	28.8	93.1	%	6.9
D	69.7	1.8	28.4	92.8	7.1	%
E	63.9	%	36.2	65.0	%	35.0
F	58.9	2.3	38.7	89.3	1.5	9.2
G	67.9	3.6	28.6	92.5	%	7.5
H	63.1	2.2	34.8	81.0	4.8	14.3
I	71.1	%	29.0	91.5	%	8.5
J	69.7	1.2	29.1	92.7	%	7.4
K	61.9	%	38.1	77.2	8.6	14.3
L	35.8	%	64.2	67.1	2.5	30.4
Mean	63.4%	1.4%	35.2%	84.2%	2.9%	13.6%
Std Dev	9.5	1.4	10.1	10.1	3.0	10.2

EXHIBIT 4

PERCENTAGE POINT CHANGE IN CLASSIFICATIONS
from 1975 to 1977

COMPANY	POSITIVE	NEUTRAL	NEGATIVE
A	10.6	(3.4)	(7.0)
B	26.5	2.9	(29.4)
C	25.0	(2.1)	(22.9)
D	23.1	5.3	(28.4)
E	1.1	---	(1.2)
F	30.4	(.8)	(29.5)
G	24.6	(3.6)	(21.1)
H	17.9	2.6	(20.5)
I	20.4	---	(20.5)
J	23.0	(1.2)	(21.7)
K	15.3	8.6	(23.8)
L	31.3	2.5	(33.8)
Mean	20.8	.9	(21.7)
Std Dev	8.6	3.6	9.3

Change = 1977 Percentage - 1975 Percentage

EXHIBIT 5

Percentage of Preferred Word Agreement
Between English and German Antonym Pairs

100% Agreement

useful	nützlich	favorable	günstig
assets	Aktiva	encourage	ermutigen
best	am besten	reward	Anerkennung
succeed	gelingen	peace	Friede
love	lieben	good	gut
success	Erfolg	friendly	freundlich
responsible	verantwortlich	willing	gern

99% Agreement

lender	Gläubiger	certain	sicher
uptrend	Aufwärtsbewegung	practical	ausführbar
white	weiss	resolutely	schlüssig
visible	sichtbar	present	anwesend
regular	regelmässig	mortal	sterblich

98% Agreement

clean	sauber	life	Leben
optimism	Optimismus	able	fähig
live	leben		

97% Agreement

balanced	ausgeglichen	agreeable	angenehm
developed	entwickelt	honest	ehrlich
gain	Gewinn	attentive	aufmerksam
agree	übereinstimmen	reasonable	vernünftig
up	auf	formal	förmlich
timely	zeitig	mature	reif
patient	geduldig	capable	fähig
competent	fähig	advantage	Vorteil
voluntary	freiwillig	victory	Sieg
polite	höflich	possible	möglich
		better	besser
		hot	heiss

96% Agreement

upwards	aufwärts	light	hell
approve	billigen	positive	positiv
presence	Anwesenheit	found	gefunden
legal	gesetzlich	usual	gewöhnlich
add	addieren	near	nahe

EXHIBIT 5
(continued)

Percentage of Preferred Word Agreement
Between English and German Antonym Pairs

95% Agreement

active	tätig	together	zusammen

94% Agreement

solvent	zahlungsfähig	right	richtig
insurable	versicherbar	grateful	dankbar
profitable	einträglich	forward	vorwärts

93% Agreement

deflation	Deflation	normal	normal
profit	Gewinn	conscious	bewusst
oversubscribed	uberzeichnete Anleihe	include	einschliessen
		wrap	einwickeln
day	Tag	reliable	zuverlässig
fast	schnell		

92% Agreement

necessary	nötig	strong	stark
upward	aufwärts		

91% Agreement

noninflationary	nichtinflationistisch	probable	wahrscheinlich
		upstairs	oben
business assets	Geschäftssaktiva	patiently	geduldig
comedy	Komödie	pleasant	angenehm
increase	Vermehrung	find	finden
full	voll	long	lang
honorable	ehrenvoll		
regularly	regelmässig		

90% Agreement

always	immer	on	an
remember	erinnern	tolerant	duldsam